

ABSTRACT

In an image pickup device with A/D converters at each column signal line, improvements in the A/D conversion speed and accuracy in image sensors having A/D converters are achieved. In an image pickup device wherein sensing elements are arranged in a matrix and A/D converters are arranged for each column signal line, the A/D converter first retains in its memory unit as an initial value an electric signal corresponding to the signal of the sensing element which is an analog signal, then initiates charge or discharge of the memory unit at a rate corresponding to the size of an input fixed signal, measures the time period from either the charge start time or the discharge start time until the memory unit electric signal becomes equal to the reference signal, and then recognizes the measured time period as a digital value.